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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,137	08/25/2003	Michael Streichsbier	38578-0013	3242

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EXAMINER

HOPKINS, ROBERT A

ART UNIT	PAPER NUMBER
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1724

DATE MAILED: 03/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,137

Applicant(s)

STREICHSBIER ET AL.

Examiner

Robert A Hopkins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14, 16-20, 22, 24, 26-35, 38-49, 51, 52, 54-58, 60 and 63-68 is/are rejected.
- 7) ☒ Claim(s) 15, 21, 23, 25, 37, 50, 53, 59, 61 and 62 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim 35 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 35 does not recite a claim number upon which claim 35 depends on. Correction is requested..

Claim Rejections - 35 USC § 112

Claims 26,27,63,64 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 26,27,63,64 recite “used as a process diagnosis” and “reverse flow method of process diagnosis”. The details of the “process diagnosis” are not detailed in the claims, and the specification does not provide detail to enable someone of ordinary skill in the art to perform a process diagnosis or a reverse flow method of process diagnosis.

Claims 12,13,14,31,34,35,38,51,52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites "said vacuum device". There is a lack of antecedent basis for "said vacuum device" in previous claim limitations. Correction is requested.

Claims 13,14,51,52 recite "said second filtering device". There is a lack of antecedent basis for "said second filtering device" in previous claim limitations. Correction is requested.

Claim 31 recites "may be mounted". The limitation "may be" does not positively set forth the limitations following "may be". Examiner suggests substituting —is—for "may be". Correction is requested.

Claims 34 and 35 recite "the DPF". There is a lack of antecedent basis for "the DPF" in previous claim limitations. Correction is requested.

Claim 38 recites "with compressed air". There is a lack of antecedent basis for "with compressed air" in previous claim limitations. Correction is requested. Also, claim 38 includes a second sentence. Examiner notes that claim limitations are required to be a single sentence only.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-5,7-11,16,17,22,24,26-29,32,33,39 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Barzuza(5514270).

Barzuza teaches a filter cleaning device comprising a cleaning fluid delivery device(32) for providing a cleaning fluid, at least one actuator(34), a controller(56) with logic for instructing the actuator to automatically move at least a portion of the cleaning fluid delivery device along a path across a surface of the filter to spray the cleaning fluid onto the filter, and a collector(54) positioned to receive waste material released from the filter during a filter cleaning event. Barzuza further teaches wherein the cleaning fluid delivery device includes a nozzle that translates across the surface of the filter in tow perpendicular axes(column 2 lines 16-22). Barzuza further teaches wherein the cleaning fluid delivery device includes a nozzle that moves across the surface of the filter along a rotational path. Barzuza further teaches wherein the path is a predetermined path. Barzuza further teaches wherein the cleaning fluid device comprises means for delivering fluid to the filter. Barzuza further teaches wherein the cleaning fluid delivery device is moved along a path to provide a substantially uniform level of cleaning of the surface of the filter. Barzuza further teaches wherein the collector comprises ducting(52) which carries cleaning fluid and material released from the filter through a filtering device and a suction device. Barzuza further teaches wherein the filtering device is a HEPA or ULPA filter. Barzuza further teaches wherein the fluid delivery device is coupled to a pulsing fluid source(note valve 40) for pulsing the cleaning pressure and fluid flow rate from the delivery source. Barzuza further teaches wherein the controller instructs the actuator to move a nozzle of the delivery

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device at a relatively uniform distance from the surface of the filter. Barzuza further teaches wherein the delivery device is adapted for use with a suction mask to focus suction on the filter. Barzuza further teaches wherein the actuator rotates the filter while the nozzle sprays cleaning fluid onto the filter(column 4 lines 18-19). Barzuza further teaches wherein the actuator rotates the filter and rotates the nozzle about an axis outside the filter to deliver cleaning fluid to the filter(column 4 lines 18-19). Barzuza further teaches wherein the nozzle is made of an abrasion resistant plastic. Barzuza further teaches wherein the nozzle on the cleaning device moves through a pre-programmed set of positions.

Claim 41 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Barzuza(5514270).

Barzuza teaches a filter cleaning device comprising a rotatable platform to which the filter is mounted, a nozzle(32) mounted to a moving arm for providing a high pressure cleaning fluid, a controller(56) with logic for instructing actuators to move the rotatable platform and the arm(column 4 lines 18-19), and a collector(52) positioned to receive material which is released from the filter during a cleaning event.

Claims 42-46,48,49,54,55,60,63,65,66 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Barzuza(5514270).

Barzuza teaches a method of filter cleaning comprising using a cleaning fluid delivery device to provide a cleaning fluid, using a controller(56) to instruct an actuator to move at least a portion of the cleaning fluid delivery device along a path across a surface of the filter to spray the cleaning fluid onto the filter, and using a collector(52)

positioned to receive waste material released from the filter during a filter cleaning event.

Claims 1,3-8,10,16,17,22,30,32,33,40 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Gregg et al(5421845).

Gregg et al teaches a filter cleaning device comprising a cleaning fluid delivery device(30) for providing a cleaning fluid, at least one actuator(36), a controller(38) with logic for instructing the actuator to automatically move at least a portion of the cleaning fluid delivery device along a path across a surface of the filter to spray the cleaning fluid onto the filter, and a collector(not shown) positioned to receive waste material released from the filter during a filter cleaning event. Gregg et al further teaches wherein the cleaning fluid delivery device includes a nozzle that moves across the surface of the filter along a rotational path. Gregg et al further teaches wherein the filtering device is a HEPA filter. Gregg et al further teaches wherein the controller can pulse the cleaning pressure and fluid flow rate from the delivery device(column 7 lines 10-24). Gregg et al further teaches wherein the actuator rotates a rectangular nozzle about the central axis of the filter to deliver cleaning fluid to the filter. Gregg et al further teaches wherein the actuator rotates a multiport nozzle(figure 2) about the central axis of the filter to deliver cleaning fluid to the filter.

Claims 42 ,44,45,46-48,54,55, 60,67,68 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Gregg et al(5421845).

Gregg et al teaches a method of filter cleaning comprising using a cleaning fluid delivery device to provide a cleaning fluid, using a controller(38) to instruct an actuator

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to move at least a portion of the cleaning fluid delivery device along a path across a surface of the filter to spray the cleaning fluid onto the filter, and using a collector(not shown) positioned to receive waste material released from the filter during a filter cleaning event. Gregg et al further teaches wherein the cleaning fluid delivery device includes a nozzle that moves across the surface of the filter along a rotational path. Gregg et al further teaches wherein the actuator rotates a rectangular nozzle about the central axis of the filter to deliver cleaning fluid to the filter. Gregg et al further teaches pulsing the cleaning pressure and fluid flow rate from the delivery source. Gregg et al further teaches wherein the actuator rotates a multiport nozzle(figure 2) about the central axis of the filter to deliver cleaning fluid to the filter.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 18,56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barzuza(5514270) taken together with Drori(4614581).

Barzuza teaches all of the limitations of claims 18 and 56 but is silent as to wherein the controller automatically determines when to stop a cleaning event. Drori teaches a filter, cleaning nozzle, and a controller(20) with timer(300), wherein the

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controller automatically determines when to stop a cleaning event(column 9 lines 22-27). It would have been obvious to someone of ordinary skill in the art at the time of the invention to provide a controller which automatically determines when to stop a cleaning event to reduce the pressure drop across the filter body to one below the predetermined magnitude.

Claims 20 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barzuza(5514270) taken together with Drori(4614581).

Barzuza teaches all of the limitations of claim 20 but is silent as to a fluid flow sensor positioned to determined if a section of filter below the nozzle is more or less clogged with particulate matter than regions of the filter around the section. Drori teaches a filter, cleaning nozzle, and a controller(20) having a sensor positioned to determined if a section of filter below the nozzle is more or less clogged with particulate matter than regions of the filter around the section(column 3 lines 62-68). It would have been obvious to someone of ordinary skill in the art at the time of the invention to provide a fluid flow sensor positioned to determined if a section of filter below the nozzle is more or less clogged with particulate matter than regions of the filter around the section in order to determine the correct time to initiate a cleaning operation on the filter of Barzuza.

Claims 6,47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barzuza(5514270) taken together with Gregg et al(5421845).

Barzuza teaches all of the limitations of claim 6 and 47 but is silent as to wherein the cleaning fluid delivery device comprises a flexible duct coupled to a source of high

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pressure fluid. Gregg et al teaches a filter cleaning device including a nozzle and a flexible duct(40) coupled to a source of high pressure fluid(28). It would have been obvious to someone of ordinary skill in the art at the time of the invention to provide a flexible duct coupled to a source of high pressure fluid so that the connection to the source of high pressure fluid is adjustable.

Claims 19 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barzuza(5514270).

Barzuza teaches all of the limitations of claim 19 but is silent as to a heating device for heating cleaning fluid prior to use on the filter. Examiner respectfully submits that heating cleaning fluid before using on a filter is a well known operation, therefore it would have been obvious to someone of ordinary skill in the art at the time of the invention to provide a heating device for heating cleaning fluid prior to use on the filter in order to use heat to help to remove particulate matter from the surface of the filter.

Allowable Subject Matter

Claims 12,15,21,23,25,37,50,53,59,61,62 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12 and 50 recite "further comprising a second filtering device positioned downstream of said vacuum device". Barzuza teaches only a single filtering device. It would not have been obvious to someone of ordinary skill in the art at the time of the

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invention to provide a second filtering device positioned downstream of said vacuum device because Barzuza does not suggest such a modification.

Claims 21 and 59 recite “further comprising an air blower to direct flow in the direction opposite to the previously applied cleaning fluid to determine a pressure drop across the filter”. Barzuza only uses a cleaning nozzle. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide an air blower to direct flow in the direction opposite to the previously applied cleaning fluid to determine a pressure drop across the filter because Barzuza does not suggest such a modification.

Claim 23 recites “further comprising an electrical heating element and supplementary air supply”. Barzuza only uses a cleaning nozzle. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a supplementary air supply because Barzuza does not suggest such a modification.

Claim 25 recites “wherein the filter is coupled to an air blower and heater-based regeneration system positioned to heat the filter prior to application of the cleaning fluid”. Barzuza only uses a cleaning nozzle. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a filter coupled to an air blower and heater-based regeneration system positioned to heat the filter prior to application of the cleaning fluid because Barzuza does not suggest such a modification.

Claim 37 recites "wherein said collector includes a plurality of filtration stages". Barzuza includes a collector(52) with no filtration stages. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a collector with a plurality of filtration stages because Barzuza does not suggest such a modification.

Claims 15 and 53 recites "wherein said collector includes at least one of : a HEPA filter or a ULPA filter". Barzuza teaches a collector which includes a collector tubing. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a collector which includes at least one of : a HEPA filter or a ULPA filter because Barzuza does not suggest such a modification.

Claim 61 recites "further comprising using a suction mask with the delivery device to focus suction on the filter". Barzuza fails to disclose a suction mask. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a suction mask with the delivery device to focus suction on the filter because Barzuza does not suggest such a modification.

Claim 62 recites "wherein the filter is coupled to heater-based regeneration system positioned to heat the filter prior to application of the cleaning fluid". Barzuza only uses a cleaning nozzle. It would not have been obvious to someone of ordinary skill in the art at the time of the invention to provide a filter coupled to a heater-based regeneration system positioned to heat the filter prior to application of the cleaning fluid because Barzuza does not suggest such a modification.

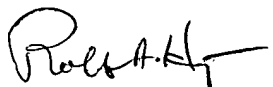
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Friday, 7am-4pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rah
March 15, 2005


ROBERT A. HOPKINS
PRIMARY EXAMINER
Pat. 1724